REMARKS

This paper is submitted in response to the Office Action mailed on May 18, 2007. Claims 1-9, 15, and 16 are pending in the application. In view of the following remarks, Applicants respectfully submit that this application is in complete condition for allowance and request reconsideration of the application in this regard.

The Office Action states that claims 1-2, 9 and 15-16, of which claims 1 and 15 are independent, stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,050,997 to Mullane ("Mullane") in view of U.S. Patent No. 6,866,664 to Schar et al. ("Schar"). Applicants do not fully understand the rejection and will assume that the claims stand rejected under 35 U.S.C. § 103(a) based on Mullane in view of Schar. Clarification is respectfully requested.

The Office Action asserts:

> Mullane discloses a device for use in spinal fixation comprising a polyaxial bone screw (Fig. 2) that is capable of engagement into bone with an effective amount of torque (via threads, note 26 in Fig. 2), and that has a second end that is adapted for swivelable attachment to a linking member (Fig. 3, 32). Mullane further discloses a connecting member (82), and a portion that is capable of function as linear fastener.
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> In addition to the bone screw of Fig. 2 having a substantially spherical second end (opposite the threaded portion), Mullane also discloses a support collar (18), with a substantially spherical first surface and a generally flat second surface both of which aid in providing a clamping force for locking the linking element. Mullane further discloses a collet member (24') with a tapered inner compression surface, and also a linking member tensioning means that has an internal bore with threads (122) that is capable being gripped by a threaded attachment to provide the necessary tensile force with respect to the collet.
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> Mullane disclose the claimed invention except for more specifically, an effectuate force to secure the spinal element when used in the first end. Schar et al. disclose a spinal device that has a clamping force to secure a spinal fixation device without the use of threads, effective to secure it. See Col. 2, lines 50-67). It would have been obvious to one having

ordinary skill in the art at the time the invention was made to construct the device of Mullane having at least a linear securing force in view of Schar et al. to reduce the torque placed on the invention and to ensure proper fixation of the spinal element.

(Office Action, pgs. 2-4.) Applicants respectfully disagree and traverse the rejections for the following reasons.

As discussed in our previous interview and noted in our last response, Mullane fails to teach or suggest the elements recited in independent claims 1 and 15. Specifically, Mullane fails to teach or suggest that "a non-rotational, linear force is applied to said linear fastener to effectuate a coupling of said fastener. . . ." Instead, and as discussed in our previous responses, Mullane discloses that the connector is secured to a bone anchoring assembly through a threaded connection that requires a rotational torque. Applicants' representative understands that there was general agreement to claims 1 and 15 defining over Mullane. Accordingly, Applicants conclude that the Office Action is relying on Schar to provide the teaching that "a non-rotational, linear force is applied to said linear fastener to effectuate a coupling of said fastener. . . ."

However, Applicants respectfully submit that Schar suffers the same deficiency as does Mullane. The Office Action asserts that Schar describes a "clamping force to secure a spinal fixation device without the use of threads, effective to secure it." (Page 3, citing Schar Col. 2, lines 50-57). Applicants respectfully disagree. In particular, Applicants submit that Schar discloses the use of a threaded connection to secure a spinal device. For example, Schar specifically describes:

> The fixation means is advantageously designed in such a way that a tensile force can be exerted on the

> clamping body from the end of the connecting body on the fixation means side. For this purpose, the clamping body is for example provided at its end on the fixation means side with an internal thread running coaxially with respect to the central axis, and the fixation means is formed as a locking screw with an external thread corresponding to the internal thread and the screw head of which at the end of the connecting body on the fixation means side is secured against movement in the direction of the central axis.

(Schar, Col. 3, lines 49-64). Applicants respectfully submit that Schar specifically describes a threaded connection, necessitating a rotational force. Thus, Schar suffers from the same deficiency as Mullane. Moreover, in an alternative embodiment, Schar further describes that "[i]nstead of the fixation means being configured as a locking screw, it is possible for the fixation means to be configured as a nut, which is screwed over a threaded pin correspondingly provided on the clamping body. (Col. 4, lines 40-43.) Again, Applicants respectfully submit that Schar specifically describes a threaded connection, necessitating a rotational force.

Therefore, Applicants respectfully submit that both Mullane and Schar, either alone or in combination, fails to teach or suggest the combination of elements recited in independent claims 1 and 15. Specifically, both references fail to teach or suggest that "a non-rotational, linear force is applied to said linear fastener to effectuate a coupling of said fastener...." Thus, for the same reasons that independent claims 1 and 15 define over Mullane, these claims also define over Schar. Accordingly, Applicants respectfully submit that these claims are allowable and request that the rejections be withdrawn.

Moreover, as claims 2, 9, and 16 depend from allowable independent claims 1 and 15, and further as each of these claims recites a combination of elements not taught or suggested by Mullane and/or Schar, Applicants respectfully submit that these claims are allowable as well.

Claims 3-4 and 6-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Mullane and Schar in further view of U.S. Patent No. 4,684,284 to Bradley, Jr. ("Bradley"). Claims 3-4 and 6-7 depend from allowable independent claim 1. Moreover, Bradley fails to cure the deficiency in Mullane and Schar as discussed above in reference to claim 1. In particular, Bradley describes utilizing a rotational force in "the jam nut 25 is tightened against the key loading ring so that the respective wedge surfaces...lock the male and female members against relative motion." (Bradley, Col. 3, lines 34-41.) As such, the combination of Mullane and Schar in further view of Bradley fails to teach or suggest the combination of elements recited in claims 3-4 and 6-7 and these claims are allowable.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Mullane and Schar in further view of U.S. Patent No. 4,946,458 to Harms et al. ("Harms"). Claim 5 depends from allowable independent claim 1. Moreover, Harms fails to cure the deficiency in Mullane and Schar as discussed above in reference to claim 1. In particular, Harms describes a lock nut that has internal threads (Col. 2, lines 31-33) that match up with external threads (Col. 2, lines 35-37). Harms further describes that "[t]he lock nut 9 may be tightened such that a substantially stiff connection results between the connecting member 14 and the threaded portion 4." (Col 3, lines 1-3.) As such, the combination of Mullane and Schar in further view of

Harms fails to teach or suggest the combination of elements recited in claim 5 and the claim is allowable.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Mullane and Schar et al. in further view of U.S. Published Patent Application No. 2004/0162558 to Hegde et al. ("Hegde"). Claim 8 depends from allowable independent claim 1. Moreover, Hegde fails to cure the deficiency in Mullane and Schar as discussed above in reference to claim 1. Specifically, Hedge describes "the clamp member 170 is configured as a setscrew adapted to engage internal threats." (Hedge, paragraph [0042].) As such, the combination of Mullane and Schar in further view of Hedge fails to teach or suggest the combination of elements recited in claim 8 and the claim is allowable.

Conclusion

In view of the foregoing response, this application is submitted to be in complete condition for allowance and early notice to this affect is earnestly solicited. If the Examiner believes any matter requires further discussion, the Examiner is respectfully invited to telephone the undersigned attorney so that the matter may be promptly resolved.

Applicants do not believe that any fees are due in connection with this response. However, if such petition is due or any fees are necessary, the Commissioner may consider this to be a request for such and charge any necessary fees to deposit account 23-3000.

Respectfully submitted,

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